THE JOURNAL

OF THE

NATIONAL ASSOCIATION of CHIROPODISTS

CONTENTS—

	Page
Peripheral Vascular Disease D. W. Austin, D.S.C.	21
Causes and Treatment of Flat Feet E. C. Rice, M.D.	33
Structural Changes in the Levy Mould B. Levy, Pod.D.	37
Chiropodists Included in Self-Employment Contributions Act	41
Reports and Announcements	41
Civil Defense—New York Plan	44
Organization News	58
Abstracts	63
Miscellaneous	70
Book Notice	75
Deaths Reported	75
Convention Dates	75

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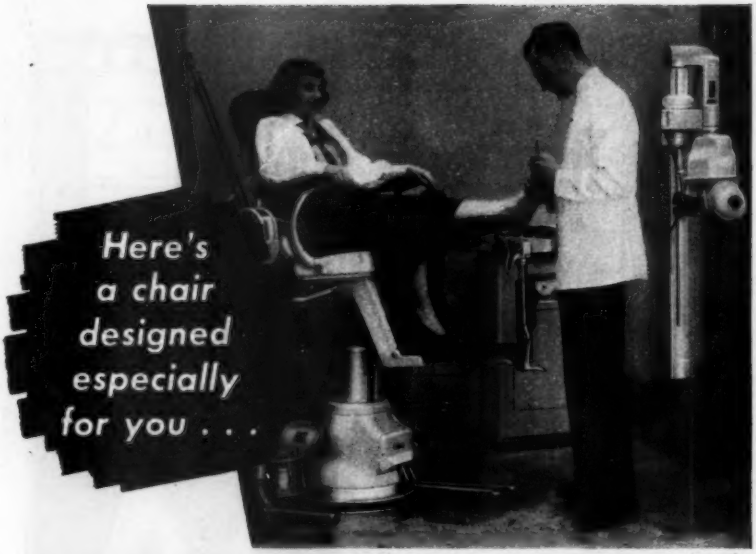

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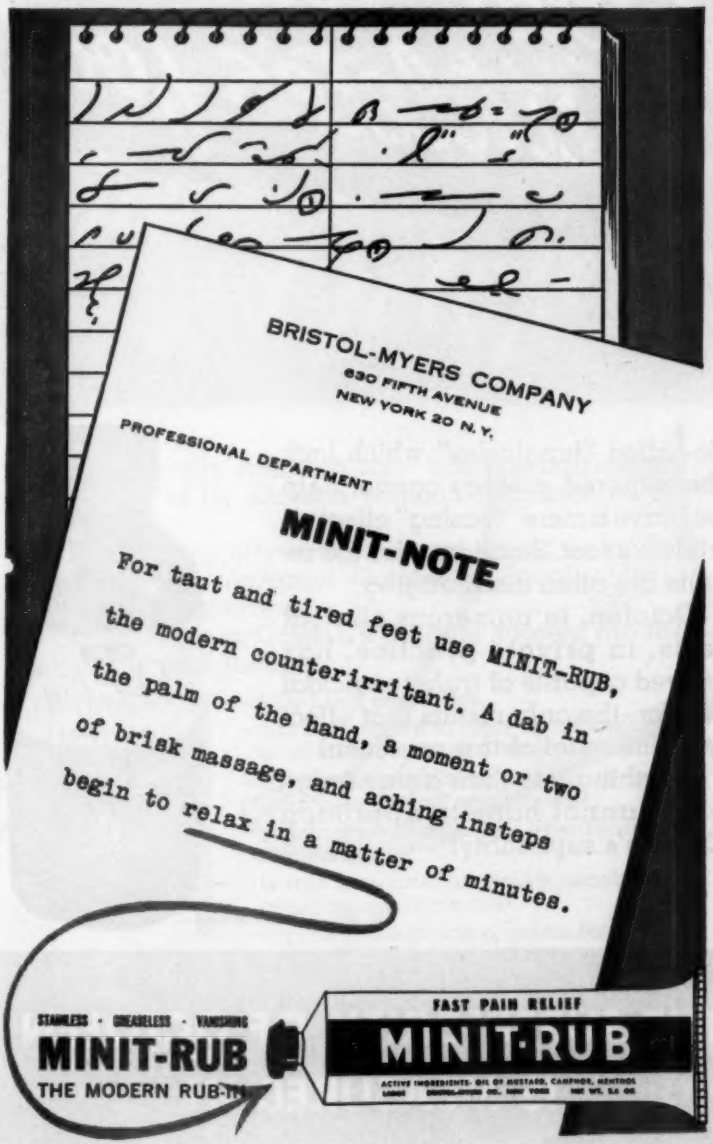
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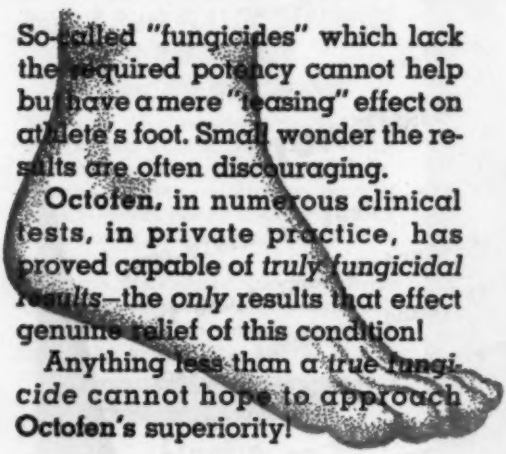

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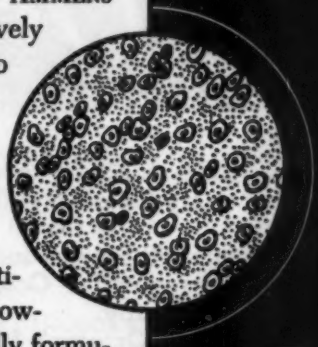

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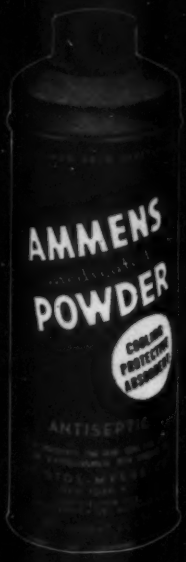

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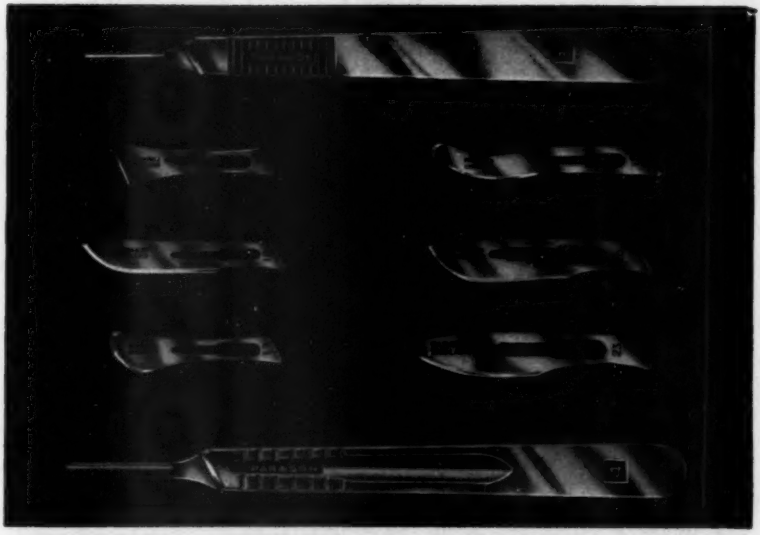

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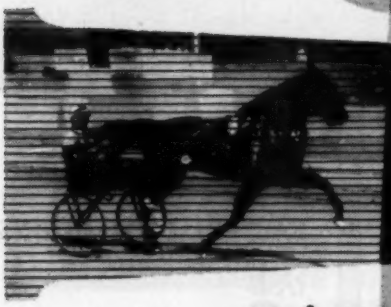

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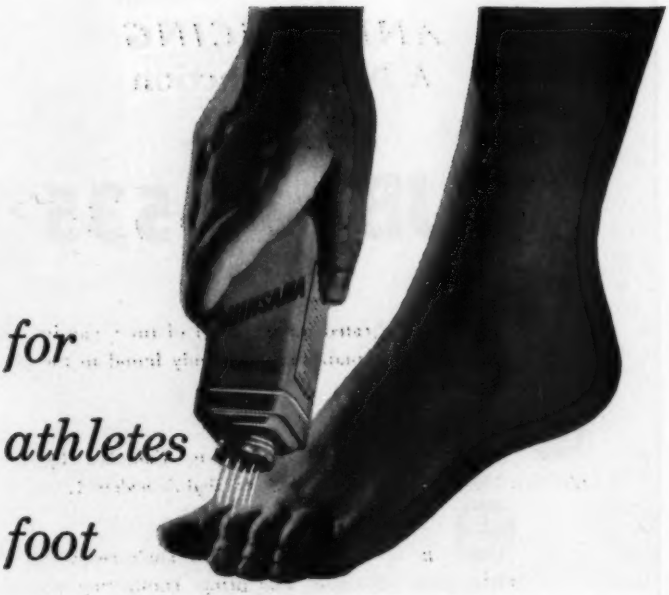

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PERIPHERAL VASCULAR DISEASE

DALE W. AUSTIN, D.S.C.
Hollywood, Calif.

I The Response of the Peripheral Blood Vessels

KNOWLEDGE of the response of peripheral blood vessels to physiological stimuli, abnormal states, and pharmacologic agents is fundamental to the clinical evaluation and treatment of peripheral vascular diseases. It is well, therefore, to summarize this portion of vascular physiology together with a clinical evaluation of these measures in the treatment of peripheral vascular diseases. It must be borne in mind that the experimental data presented herewith represent the responses of normal vessels in normal subjects or animals. The very nature of peripheral vascular disease, with the single exception of the functional or the vasospastic group, in a large measure obviates these responses, if not qualitatively, at least quantitatively.

The important arteriovenous communications of Sucquet and Hoyer in the skin must be borne in mind when evaluating the responses of physiologic stimuli on peripheral blood vessels. These consist of an afferent artery, the arteriovenous anastomosis itself, the neuroreticular structures around the canal, and the primary collecting vein. The entire glomus mechanism is under active neurogenic control. Functionally these communications play an important role in the maintenance of the temperature of exposed parts. Open, they provide for a large peripheral blood flow and heat dispersion; closed, heat is conserved. Functional control of these vessels alone may give records of wide skin temperature fluctuations and total peripheral blood flow without giving evidence of the state of the vessels in the deeper structures.

Skin temperature as measured by thermocouples, or the volume of blood flow through a limb as measured by the venous occlusion plethysmograph, give the most information concerning the state of the blood vessels. Direct observation has rather limited application. Often these measurements are made upon a finger, hand or toe, independent of other parts, and this information may therefore be entirely misleading when considering the limb as a whole. In a large measure the a-v communications of the fingers and toes are responsible for these discrepancies.

These a-v communications are absent along the dorsum of the fingers, toes, hand and foot and along the lower portion of the forearm and leg. Consequently more accurate reflection of the state of the blood vessels of the entire limb may be obtained from simultaneous studies at several sites, or if a single site is chosen, from the forearm or leg.

Abramson[1] states, "Observations on blood flow and vascular reaction in one portion of the extremities cannot necessarily be applied to others at the periphery. Furthermore, the presence of a-v shunts in the distal part of the limbs and their findings in the rate of blood flow in the hand and foot is changed readily by vaso-constricting stimuli. The circulation of the forearm and leg is for the most part unaffected by stimuli which do not have a systemic cardiovascular effect and is enhanced by those which appear to increase cardiac output. All these results, therefore, support the view that the vascular responses in the proximal portions of the extremities are much more representative of peripheral circulatory reactions than those in the distal portion".

II Physiologic Stimuli

Position—When one rises from the horizontal to the vertical position, a number of changes take place; a generalized vasoconstriction, increased pulse rate, increase in skeletal muscle tone in an effort to counteract hydrostatic pooling of blood in the dependent areas below the heart level. After a 30 second drop in blood pressure, with stimulation of the carotid sinus, etc., the pulse rises 20 to 30%, and there occurs a mesenteric vasoconstriction (renal blood flow decrease) and peripheral vasoconstriction is evidenced by a drop in skin temperature and decreased rate of flow. The increased skeletal muscle tonus empties the intramuscular capillaries and venules and contributes to the support of larger veins. Failure of these adjustments is seen in orthostatic circulatory collapse with syncope. In orthostatic hypotension the failure of the cardiac accelerator reflex probably plays a large role.

Heat—The extremities constitute 65% of the total body surface. 70% of total heat elimination is through radiation, conduction and convexion from the skin. 46.5% of total heat loss, therefore, is through the extremities. The heat is delivered to the extremities by the circulation of blood.

Local heat penetrates approximately 2 cm. with a normal circulation. With impaired circulation, heat penetrates much deeper, giving a burning sensation which grows as anoxia increases. Local dilatation of arteries, capillaries and venules not requiring an intact nerve supply leads to an increased blood flow with removal of heat and prevention of penetration. This is evidenced by a decrease of a-v oxygen difference. Local metabolic needs increase and are supplied if the circulation is intact.

Acute intense generalized heat results in a marked increase of blood flow through cutaneous surfaces. This results in a compensatory increase in the cardiac output with vasoconstriction elsewhere (primarily visceral) and contraction of blood reservoirs such as the spleen. As sweating ensues, blood volume decreases, venous return drops and further compensatory vasoconstriction takes place. As such exposure continues, new supplies of water are requisitioned from the tissues to replace evapo-

ration losses. This contrasts with the compensation to prolong moderate heating (as occurs in the summer months) and which takes place through increase in the blood volume, first through salt, water and protein, later with additional red blood cells.

Indirect vasodilatation—Heat is applied to two limbs producing a response in the third. This was studied by Landis and Gibbon[2], who found that the response always occurred when blood from the heated limb reaches the heart and they concluded that the heated blood stimulates the vasomotor center in the brain. This phenomenon is dependent upon the integrity of the sympathetic nervous system. Whether inhibition of the vasoconstriction occurs is a question not yet settled.

Indirect vasoconstriction following application of cold will occur to a small degree if the circulation is occluded. It will be greatly increased when the circulation is relieved and the mechanism is presumably similar to the effect of heat.

Cold—When cold is applied locally there is a decrease of blood flow through the extremities. Arteriolar and venous constriction is prominent though the capillaries and venules dilate. Vasodilatation takes place which Lewis[3] thinks is due to H substance subsequent to tissue injury. Cold applied to large areas initiates immediate vasoconstriction of cutaneous arterioles with decrease in the peripheral circulation, reduction in the heat conduction in the skin and a rise of rectal temperature due to shifting of warm blood to the body.

Humidity—High humidity decreases the loss of heat by sweating and results in elevation of body temperature for which cutaneous vasodilatation compensates. Both hypothalmus and cerebral cortex are required for these mechanisms.

Food—Fifteen minutes after eating, the pulse rate, pulse pressure, and cardiac output increase. Abramson and Fierst[4] found the increased blood flow to the G.I. tract is not to any significant degree obtained at the expense of blood flow to the extremities.

Muscle cramps in the limbs occurring with exercise after eating are a result of failure of the usual compensatory mechanisms whose functional abilities have already been altered by the load of digestion.

Reactive Hyperemia—The well-known and much studied phenomenon of reactive hyperemia results from local anoxia. Reactive hyperemia is the period in which the local circulation to an organ is increased above the resting level following the re-entry of blood into the ischemic area. The duration of reactive hyperemia is proportional to the length of time of anoxia and it is rarely longer than ½ to ¾ the period of circulatory arrest. Compensatory blood flow is much greater than the debt except with very short periods. The circulatory augmentation is maximal approximately 90 seconds after release and remains so for 5 to 20 seconds and soon returns to the base level. For example, after a 10-minute arrest of blood flow, flow returns to normal in 3 or 4 minutes. A negative phase of decreased blood flow follows, often with parethesias, probably due to increased sympathetic nervous system tonus based on pain. These responses are the same after sympathectomy. Reactive hyperemia is greater in hyperthyroids, less in hypothyroids, and the height of the blood flow response is proportional to the blood pressure. Three mechanisms have been suggested: 1) responses due to local and primary

changes in tone of blood vessels associated with anoxia; 2) local injury with accumulation in extravascular tissues of slowly defusible substances; 3) the H substance of Lewis locally accumulated during oxygen want, with vasodilator properties. The phenomenon of reactive hyperemia is the rationale for Buerger's exercises.

Muscular Exercise—Centrally, muscular exercise results in an increased cardiac output, increased venous return, increased pulse rate, increased stroke volume and an increased pulse pressure, so that there is naturally increased blood flow. Thus there is an augmentation of general circulation, and augmentation of local circulation due to active and passive vasodilatation, greater utilization of oxygen and widening of the arteriolar and capillary beds. Temperature studies have revealed that a muscle is ischemic during strong contraction, and is hyperemic afterwards, or during weak contraction. After this, with repeated contractions, a replacement of blood flow proportional to the severity of the exercise occurs, with time relationships similar to reactive hyperemia. Skin cools during exercise due to shunting of the blood to the musculature though there is not complete agreement upon this observation and its mechanism is still debated.[5]

Intermittent Claudication—This phenomenon is best described as exercise with decreased or limited blood supply which leads to pain which in turn is increased with further exercise. Lewis, Pickering and Rothschild[6] found that: 1) in a limb deprived of blood supply by a tourniquet, if exercise was stopped just short of the pain threshold and the anoxia continued for five minutes, pain would not develop. Therefore, it was not due to direct oxygen lack; 2) after pain developed, its intensity would not be increased without further exercise even in the absence of a blood supply. Upon relief of the circulation the pain was gone in a few seconds. They concluded that this pain was due to a stable physiological chemical "P-factor" within the muscle accumulating in the tissues (only with impaired circulation) and stimulation to nerve endings. Katz[7] elaborated slightly, stating that under these circumstances there accumulated a diffusible chemical substance formed during catabolism and slowly removed in the presence of oxygen, nonvolatile, facilitated by the presence of acid and retarded by alkali. Veal and McCord[8] studied the venous blood oxygen saturation in normals and arteriosclerotics before and after five minutes of walking. Intermittent claudication occurred in the latter group. Their results were as follows:

	Normal	*Arteriosclerotics*
Resting	65.5	69.5
Exercise	54.0	66.6

The causes of this high level of resting oxygen saturation and the small utilization of oxygen with exercise in the arteriosclerotic are still in doubt. These authors postulated: 1) possibly an increased blood flow. This is hardly possible in arteriosclerotic patients; 2) more severe exercise for controls than for arteriosclerotics would not explain control level differences; 3) interference with oxygen transfer across the capillary walls or failure of tissue utilization of oxygen cannot be disproved but seems unlikely; 4) the open a-v anastomosis in the feet is significant; 5) finally, pain may be produced in anemia without deficiency of the blood supply. Pain occurs when oxygen supply is deficient.

III Physical Agents

It was pointed out that the use of physical agents, proper hygiene and conservative treatment are still the most important part of the armamentarium in the treatment of peripheral vascular disease. Among the most important measures which have been recommended are the following:

Postural exercises—Allen, Barker and Hines[9] doubt that these exercises increase the transportation of blood, however, they are occasionally prescribed because they can be carried out simply and remind the patient that he has impaired circulation, and encourage him to take better care of his extremities.

Buerger outlined the Buerger exercises as follows:

With the patient lying supine in bed the affected limb is elevated 60 to 90 degrees above horizontal. It is allowed to rest upon a support for from 30 seconds to 3 minutes. The period of time being the minimum amount of time necessary to produce blanching or ischemia.

As soon as blanching is established, the patient allows the foot to hang over the edge of the bed for from 2 to 5 minutes or until reactive hyperemia or rubor sets in. The total period of time being 1 minute longer than that necessary to establish a good red color.

The limb is then placed in a horizontal position for 3 to 5 minutes during which time an electric heating pad or hot water bottle is applied, care being taken to prevent a burn. The placing of the limb in three successive positions constitutes a cycle, the duration of which is usually 6 to 10 minutes. These cycles are repeated over a period of 1 hour, 6 to 7 cycles constituting a group of exercises.

Contrast baths—Contrast baths are usually given in containers which are large enough to immerse the feet and legs almost to the knees. They contain sufficient water to keep the temperature constant. In one basin the range of temperature is from 45 to 65 degrees F., and in another from 100 to 105 degrees F. The extremity is alternately immersed in the water of the two basins for one minute each, for a total of 15 minutes three times a day. Again, Allen, Barker and Hines[9] find no evidence that contrast baths produce permanent improvement in the circulation.

Radiant heat—It has been shown that there is no question that excessive heat to extremities suffering from impaired circulation may result in burning. The application of even moderate degrees of warmth, in excess of 92 degrees F., may increase tissue metabolism more than it increases the circulation, resulting in gangrene.[10] Starr[11] found that pain is often intensified by too high temperatures and that the optimal temperatures for the relief of pain is from 91.4 to 95 degrees F.

Environmental temperatures—Physiological studies have shown that when the room temperature is increased, the flow of blood through the extremities is greatly increased and this is an effective means of dissipating heat from the body. This physiological response to increased environmental temperature may be used advantageously in the treatment of conditions characterized by impaired arterial circulation. To induce a maximum flow of blood through the extremities an environmental temperature of 80 to 85 degrees is advised. Allen, Barker and Hines consider this an important basic method of treatment for chronic occlusive disease.

Short Wave Diathermy—Bennett, Krusen and Hines[12] emphasize the point that the use of high frequency currents may be dangerous and have a short action which impairs usefulness. Overheating of any metal

which happens to be within the high frequency field may result, and diathermy therefore, should never be applied over an innerspring mattress. It is most safely used when the patient is lying on a wooden pallet covered by a hair mattress. Allen, Barker and Hines have been able to develop no evidence that repeated diathermy treatment produces permanent improvement in the arterial circulation.

Reflex Heating—This may be accomplished by an electric sleeve or an electric boot or by heat applied to the pelvis. Allen, Barker and Hines used an electric sleeve to study normal and hypertensive patients under controlled conditions. This work revealed that the temperatures of the skin of the toes of all but two of the normal persons and all but one of the patients who had hypertension increased with application of the heating sleeve to a forearm and hand. A high degree of vasodilatation was produced and maintained as long as the heating sleeve was applied. Plethysmographic studies showed that the flow of blood in the opposite hand was increased, and this may be modified by immersing the hand in hot water or by putting a heat cradle over both upper extremities or over the back.

Passive vascular exercises (intermittent suction and pressure)—are summarized very well by Allen, Barker and Hines[9]: "this method of treatment has some clinical value, but just how much has not been determined because it has not been employed extensively enough as the sole method of treatment. The observation that it increased transiently the flow of blood is probably true. But it should be pointed out that the circulation of the extremities can be increased transiently in a number of more simple ways, such as immersing the hand in water of 113°F.; resting in a room, the temperature of which is about 86°; or drinking alcoholic beverages. We do not believe there is as yet adequate evidence to enable us to accept the thesis that treatment with suction and pressure produces a permanent increase in the circulation of extremities. In our own practice we have used it less and less because it is a cumbersome and occasionally uncomfortable method of treatment and because from the clinical standpoint we have felt that it does not have greater virtues than more simple methods of treatment".

Intermittent Venous Compression—Collens and Wilesky[13] felt that this method of treatment might have value since it results in increased arterial amplitude, increased intercapillary pressures, and stimulation of the exchange of fluids. To accentuate the good effect of intermittent venous occlusion, however, they recommended an environmental temperature of about 100°F., and short wave diathermy also seemed to accentuate the beneficial effect. Abramson and associates[14] found that in no instance was a sustained increase in the flow of blood observed in the leg or forearm during or after intermittent venous occlusion; and Allen, Barker and Hines[9] believe that there is entirely inadequate evidence to show that significantly increased circulation results when venous compression is released, because the increase in circulation which occurs may simply repair the oxygen debt which occurs during the period of venous compression.

The Sanders Bed consists of an ordinary hospital bed attached to a special cradle so that it can be rocked in a transverse axis across its mid position like a seesaw. By means of an electric motor the bed is alternately raised and lowered 60°. Barker and Roth[15], after a series of

observations on patients who had occlusive arterial disease, found that it was advisable to run the bed at a cycle of two minutes, and to have the foot of the patient just become blanched when elevated and to become red when depressed in the dependent position. In six patients the temperature of the toes was elevated from .1°C. to 3.8°C. but the increase of temperature may be due to sleep because the bed has a soporific effect on patients. The most striking results from the use of the Sanders bed were the relief of pain associated with ulceration and gangrene, relief of pain due to ischemic neuritis and pain which occurred in the digits without ischemic neuritis and gangrene. Intermittent claudication did not seem to be ameliorated, but relief of pain persisted after prolonged treatment on the bed in many cases. In comparison with other mechanical means of treatment of peripheral circulatory disease, the Sanders bed has the advantage of avoiding constriction of the leg or obstruction of venous circulation. It is to be noted, however, that Allen, Barker and Hines got the best results with the Sanders bed at a room temperature at 85°.

In reviewing the use of the physical agents which are available, therefore, very few of them have actual experimental evidence to indicate their usefulness. Environmental temperature seems to be extremely useful and reflex heat may be used with some success. The Sanders bed is an expensive type of apparatus to use requiring hospitalization of the patient with continued use of the rocking bed for many days and weeks. Consequently the simplest methods are often the most effective, and there is no need at this time to point out the importance of proper care of the feet.

IV Pharmacological Agents in the Treatment of Peripheral Vascular Disease

It will be noted in the following discussion that a number of therapeutic measures have been tried in the past and it is apparent that the lack of knowledge about the etiology and physiological mechanisms of peripheral vascular disease prohibits one from preventing their occurrence and interrupting their progress. They are now treated symptomatically. The very nature of the lesions, particularly in Buerger's disease and arteriosclerosis obliterans, accounts for the failure of both local and systemic vasodilatory agents. DeBakey, Burch, Ray and Ochsner[16] point out that plethysmographic studies reveal five normal spontaneous variations, that is pulse; respiration; alpha, under control of the sympathetic nervous system; beta, which may properly be related to intra and inter-cellular volume in general; and gamma, which represents shift of blood from one part of the body to another. These variations are a part of the mechanism for stabilizing the internal surroundings. Since the total blood volume is fixed, to fill a locally dilated portion of the vascular bed there must be a compensatory vasoconstriction in another, or the head of pressure will fall. In the absence of generalized vasodilatation, even maximal local vasodilatation will be compensated for, with preservation of the pressure head. Therefore, it would be impossible to increase the circulating blood volume in any single part of the tissue if there were a comparable increase in the volume of the entire vascular system. Carefully controlled studies using sensitive thermocouples and plethysmographs by these investigators show that following a unilateral sympathetic procaine block there are marked evidences of vasodilatation in the corresponding limbs but a decrease in

temperature and volume of flow in all other sites measured: in the chest, the contralateral legs and arms, though the total loss of blood measured in these sites was less than the additional blood flow in the legs, indicating participation of the visceral vessel. They noted that the same results were obtained when diffuse vasoconstriction produced by anxiety and pain was followed by tetra-ethyl-ammonium chloride. This did not cause a change in blood flow throughout the body, but a subsequent posterior block and then lumbar block resulted in compensatory shift of blood volume diffusely from the body to the affected leg.

They conclude that the borrowing and lending of blood, for which the term *hemometakinesia* was coined, is well regulated, does not involve alteration in blood volume and is under the control of the vascular bed which adjusts to permit an increase in the volume of blood of one part of the body with a corresponding simultaneous decrease in the volume of blood in other parts.

They feel that the application of these principles of hemodynamics is immediately apparent. That is, peripheral vascular disease is characterized by some disturbance of, or actual diminution in, the normal amount of circulating blood which reaches the part and effective therapy is based on improvement in the circulation to the part. Therefore, therapeutic measures which are designed to produce dilatation of the entire vascular bed do not seem rational. The results of efforts to produce localized vasodilatation by using an agent with general effects is open to question and undoubtedly is ineffective and inefficient. If one of these agents could produce maximum vasodilatation it would be dangerous for the reaction would be shock-like. Sympathectomy is apparently the only available measure which rationally fits these principles and is the only measure which is effective.

It has been reported that the small portion of blood loaned by a contralateral leg after sympathectomy, has on occasion been enough to result in a paradoxical occurrence of gangrene in the untreated leg. Similar hemometakinesia may develop in the same limb. After sympathectomy vasospasm is relieved, and the a-v anastomoses open with elevation of skin temperatures in the leg and foot. However, lowering the peripheral resistance in any section of the vascular bed proximal to the nutrient arteries, especially those in the distal portion of the extremities, reduces the effective pressure. This, plus the loss of capillary pressure secondary to wide a-v anastomoses, may lead to paradoxical gangrene in the sympathectomized limbs.

Pharmacological Agents

1. *Epinephrine*—The injection of epinephrine results in a marked increase in cardiac output together with elevated temperatures in the skeletal muscles of the extremities, even in the absence of nerve supply. In contrast, however, the cutaneous capillaries, arterioles and sub-papillary venous plexus contract as does the splanchnic system. Temperature recordings, therefore, are variable.

2. *Pitressin*—Injection results in marked vasoconstriction of the peripheral arterioles, capillaries and sub-papillary venus plexi. This is a direct action on the muscle fibers as it occurs after a sympathectomy.

3. *Estrogen*—No substantial evidence exists that estrogens increase circulation in man. However, androgens do show some vasodilatory

effect in the treatment of vasospastic conditions of nervous origin and good therapeutic results have been reported. The use of other clinical methods simultaneously invalidates these results.

4. *Histamine*—Lewis found that intracutaneous histamine produced a triple response; local capillary dilatation, reflex dilatation of arterioles regionally and increased capillary permeability with wheal formation. Intra-arterial histamine produces marked flushing of the skin, increased temperature at the fingertips and a lesser response on the opposite side.

5. *Acetylcholine*—Weiss has found that intra-arterial injections of acetylcholine produced flushing and sweating of the skin distal to the site of the injection. Intravenously the para-sympathetic effect on the heart predominated, with some arterial vasodilatation which diminishes toward the lower extremities.

6. *Nitrites*—Small doses produce vasodilatation of arterioles, capillaries and venules with a compensatory increase in cardiac output, and increased blood flow. Larger doses cause venous return to drop, cardiac output to drop and consequently a drop in peripheral blood flow.

7. *Nicotinic acid—Nicotinic acid amide has no effect.* Consequently nicotinic acid must always be used. It has been shown that a 100 mgm. dose of nicotinic acid produces increased blood flow in the hand and arm, less in the legs. This effect occurs in about 20 minutes, is maximum in one hour and lasts for several hours.

8. *Magnesium*—The blood flow in the leg is increased only if enough is given to produce transient paralysis of the muscles of the neck and extremities.

9. *Calcium*—The subjective symptoms of the increased warmth after injection are probably due to stimulation of the sense organs. No change in blood flow has been recorded.

10. *Mecholyl*—Probably the greatest portion of the dilatation produced is cutaneous, and it is noteworthy that the response is much less in the leg than in the hand, foot and forearm. When administered by iontophoresis there is usually a marked increase in blood flow, both in normals and arteriosclerotics. Furthermore, systemic reactions rarely occur and there is no reflex vasodilatation in the contralateral extremities. Therefore, this is more lasting than when reflex vasodilatation occurs.

11. *Papaverine*—This action is the direct stimulation of the muscle fibers. Interarterial administration produces an increase in the temperature of the hands.

12. *Histadine*—The triple response of Lewis, indicative of the presence of histamine when injected into another subject, is present in the serum of patients receiving histadine monohydrochloride and sodium ascorbate. Wirschafter and Widmann[17] attempted to apply this principle in the treatment of peripheral vascular disease by using the following schedule: 500 mg. sodium ascorbate b.i.d., 100 mg. ascorbate subcutaneously, and 5 cc. 4% aqueous histadine monochloride intramuscularly every 4-12 hours. In addition the patient received 600 mgm. vitamin C orally, daily. In a preliminary report they claimed relief of the intractable pain within 6 hours to 3 days after the initial treatment. No amputations were required and an increased warmth of the limbs was noted subjec-

tively and objectively. Other investigators have not had such remarkable results.

13. *Smoking*—The relationship between cigarette smoking and Buerger's disease was established in 1933, and has subsequently been confirmed by a number of other investigators. It has been shown that the incidence of smoking is almost 100% in victims of Buerger's disease, and these patients exhibit an unusually high incidence of sensitivity to tobacco and nicotine. The crucial point is the problem of individual variation and response which in turn, no doubt, is intimately related to the patient's sensitivity to tobacco and nicotine. Chapman, after reviewing the findings, has come to the conclusion that tobacco is harmful to those patients who possess vascular systems which respond readily to vasoconstriction. Such people are those with progressive Buerger's disease. One milligram of nicotine is a sufficient physiological stimulant to cause vasoconstriction, reducing the temperature of the fingers and toes to approximately 33 to 28.5°C., with recovery varying from 5 to 70 minutes. Although the changes are less pronounced in the lower extremities, their recovery period is considerably longer. The blood flow is most markedly impaired in the hands and feet, and the forearm and legs respond variably or are unchanged. These reactions are more pronounced in younger patients and in normals more than in convalescents. Filtering and de-nicotinizing cigarettes is inadequate to prevent vasospasm and sympathectomy does not alter the reaction.

14. *Alcohol*—Ingramson found that 60-80 cc. of alcohol increased blood flow two times the control level in the hand but not in the arm and leg. The effect began in ten minutes with maximum effect in 45, and had a slow return to base level. It would appear that the major vasodilatation was cutaneous only. Hakinson and Beck found that the skin temperature rises with rest alone for much longer than the 30 minute rest period usually used with this test, and that the resulting vasodilatation probably took about 2 hours to reach maximum. Consequently, they felt that slowly accumulating and beneficial effects on reserve capacity were doubtful. In addition they feel that the hazard of producing habitual drunkards, particularly in people with painful extremities, is very grave. Roth and Sheard found that the vasoconstriction from smoking averaged 2.5°C. in the toes, occurred immediately and persisted for one hour. The vasodilatation after alcohol required 30 to 60 minutes to develop, which compares well with the effect of food. The effect of smoking could not be obliterated by alcohol even if temporal relations were corrected.

In the very recent past the pharmacological approach to the treatment of peripheral vascular disease has entered a new phase. This has been accentuated by the universally disappointing results obtained by the drugs which have been discussed. Each new therapeutic measure has been heralded with glowing accounts of pain relieved, gangrene prevented, arrested and cured.

Observations made after a period of time have demonstrated that the majority of these agents have made little or no difference in the unrelenting course of the disease, particularly when it is remembered

that peripheral vascular diseases have natural exacerbations and remissions.

Only the most simple measures have remained with us; rest, hygienic care, psychotherapy and avoidance of excessive heat. Sympathectomy and adrenalitic and sympatholytic drugs have yet to be discussed. The present evaluation of these new modalities is made with restraint rather than with enthusiasm. As knowledge of the reactions of these modalities increases, realization of a hopeful panacea fades, but they will undoubtedly contribute much to the knowledge of the autonomic nervous system. Therefore, a summary of the present status of these new drugs will be helpful.

Priscol (Benzylimidazoline) is well summarized by Ahlquist. Apparently it acts primarily as a sympathomimetic drug. Peripheral vasodilatation is the single exception and this dilatation is not prevented by atropine or sympathomimetic agents and is associated with the increased venous return. It blocks sympathomimetic amines, particularly epinephine.

Local and systemic toxicity (a marked depressor action) and the short duration of effectiveness has limited this preparation's use.

Benzdioxine includes a group of 6 or more drugs prepared by Fourneau. Two have received the most attention and have very similar chemical properties. Primarily they are anti-sympathomimetic or adrenalytic. There are a number of side effects which are undesirable, and consequently it has not been used widely clinically for peripheral vascular disease.

Dibenamine may be administered orally, subcutaneously, intramuscularly or intravenously. It, too is primarily adrenalytic. Following administration the effects begin in 5 minutes and are maximum in 30 minutes. The site of this action is not entirely known. Side effects consist of local venous thrombosis and nausea and vomiting which may persist from 6 to 24 hours.

Tetraethyl ammonium chloride or bromide (TEA)—It has been demonstrated that TEA blocks the transmission of impulses across the autonomic ganglion. Clinically, administration produces a fall in both the systolic and diastolic blood pressure, an increase in pulse rate and marked increase in peripheral blood flow. This peripheral blood flow is maximal in 20 to 30 minutes and normal in 60 minutes. The results from the use of TEA have been controversial and as the drug is used more and more conservatively the enthusiasm with which it was first used is noticeably diminishing. DeBakey concludes that "it seems unlikely that tetraethyl ammonium bromide would prove of great value either diagnostically or therapeutically in peripheral vascular disease".

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CAUSES AND TREATMENT OF FLAT FEET

EUGENE C. RICE, M.D.
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ONE OF THE common causes of foot lesions is weak ankles. It is obvious; yet for several years I have endeavored to call attention to this common cause of foot suffering, and it continues to go unnoticed.

The weak ankle causes a foot posture that makes it look like a weak foot, erroneously called "flat feet" or "weak arch." The commercially minded have seized on this idea, advertised it extensively, made it a gold mine by advocating arch supports to all foot sufferers regardless of pathological conditions or their causes.

Before considering its cause and the injury it is responsible for, a description of the normal foot is needed; what it should be if permitted to develop naturally. Briefly stated, the great toe makes a strong support for the inner anterior pier of the arch formed by the bones, an arch completed by a well-developed heel, and maintained by a strong, dense band of fascia and ligaments binding the piers together, thus producing a light, elastic structure well adapted to support the body weight and diminish the effect of shocks. Nature has provided a marvelous arrangement of ligaments and joints. In the erect posture *the ankle joint is so arranged that its bones are in a position of great stability, and the center of gravity is so adjusted that it falls directly on the joint.* This reduces to a minimum the amount of muscular effort required to keep the body erect. The longitudinal arch *has no standard height.* With body weight on the foot, if leg, ankle and foot remain straight one with another, and the achilles ligament is straight from muscle to its insertion, whether the arch is high or low, it is normal. Nature provides this wonderful piece of mechanism. Now let us see what humans do to destroy its usefulness. Examining the X-ray of the infant's feet at the age of seven to twelve months, the feet are seen to be only partially developed, their bones do not articulate, being separated one from the other more than a quarter inch. Ligaments at this period, too, are of little service, for they are as undeveloped as the bones. So much for the anatomy of the infant's foot.

As a part of my research I had the organs of the infant weighed, and found those on the right side weighed more than those on the left side. I believe that difference may be the primary cause of the *weak left ankle* frequently found in the child, and it continues on into adult life. This difference in weight may cause a shifting of body weight to the left foot, and because of its undeveloped structure ligaments may be permanently injured if body weight is put upon this foot too soon. The infant who shows a tendency to stand is usually aided by parents, relatives and friends; to encourage this practice is generally to damage permanently the supporting ligaments about the ankle. It also stretches the foot supporting muscles (tibial) of the leg; the ankle hinges (weakens), permitting the foot to roll over on its side to produce the so-called flat foot; the foot averts, the ankle bulges, and the tendo achilles curves inward; then the anterior foot takes the position of abduction. The midtarsal articulation permits this abduction. As the os calcis turns on its side, the arch of the foot may lower and the foot may lengthen, *but this is not the usual case.*

The weak ankle does make the foot pronate, but let the patient put his weight on the foot and hold the foot in the normal position, keeping the ankle straight with foot and leg, and very few feet will be found to be without the arch.

A foot with a weak arch, free of body weight, may look normal but when it receives the body weight, like a weak spring, it flattens and lengthens, sometimes three full sizes. The pathological changes mentioned *are not* common. I introduced a new record system in my office twenty-four years ago, and the records retained during that period number more than thirty thousand; in not 2% of them will the weak arch be noted, and that applies, too, for the sixty years I have practiced, during which I have attended five generations of some families.

My associates, Drs. A. O. Penney and William Reher, believe, with me, that the human foot is not the weakling the profession believes it to be; for it is strong, made so by ligaments that firmly hold its many small bones in place, and not until it is abused by shoes that do not follow the lines of the foot, and improper posture, does it alter in form or function, and even then the longitudinal arch seldom changes from normal.

"In recent experiment by English surgeons, freshly amputated limbs were held in the normal upright position, and weights equal to more than half the body weight were located on a platform resting on the upper articular surface of the tibia. This produced no dropping of the arch. The muscles were then tenotomized in case any residual tension left in them was helping to support the arch; the arch still maintained its height. The inferior calcaneo-navicular ligament was next divided, the arch immediately dropped a half inch, but a well marked arch was still obvious. Division of the plantar fascia produced a further drop of a half inch, but the arch did not drop completely until the long and short plantar ligaments were divided. These tests have been carried out on a large number of cases, and with *varying types of feet the results are always the same—the arch is static.* (From "The Foot," 3rd ed., by Norman Lake.)

The pathological changes mentioned in the child's feet generally do not cause discomfort or suffering. Usually the children are brought into the office because of bad posture. If correction is neglected, this ankle lesion is carried through to the adult. Adults who are overweight or on their feet too long in the home or business are usually obliged to seek relief. The weak ankle symptoms first appear in the midtarsal region, and extend into the leg. The abducted foot increases muscular effort, causes the 5th, 4th and 3rd toes to swing toward the inswing of the toe of the shoe (the outer border of the shoe from ball to the tip of the toe), and when the heel is raised in the act of walking those toes are not only jammed against the inswing with weight of the body causing the pressure, but they also shuttle forward into the narrower part of the toe of the shoe. Believe it or not, adults find this condition causes many of the foot lesions found in and about the anterior foot. Metatarsalgia and Morton's neuralgia are caused by the toes mentioned (principally the 3rd, 4th and 5th) being pressed back onto the *metatarsal heads where they pinch the plantar nerves,* causing pain in the foot, leg, thigh and hip. This same toe pressure holds the toes so close that lesions form within the interdigital spaces, moisture collects and is retained making a perfect nidus for mycotic in-

fection, also on the dorsal and distal surfaces of the toes; and lesions of the nails occur. Knock knee (genu valgum) generally accompanies the weak ankle.

Why are weak ankles so common? There are several causes. The infant's weak feet are too often termed "congenital." That is possible due to position of the feet in the uterus, but it is unusual. As soon as the babe arrives, those responsible for its care put bulky, tightly pinned diapers on it, and to prevent the infant from kicking off the bed clothes, "it is placed in the knee chest posture." Also, carrying the child on the hip spreads the thighs, causing them to rotate outward, and the feet are abducted. When a child is on the floor, sitting on its legs, its feet are usually abducted. This abduction of the foot is damaging to the ankle. Use of the play pen makes it possible for the baby to pull itself up onto its feet too soon. This goes on for more than a year, and the leg posture becomes more or less permanent, so when the infant is able to stand and walk he does so Charlie Chaplin fashion. That posture puts too much weight on the inner border of the foot, and ankle ligaments are permanently damaged Ligaments and fascia of the foot support the longitudinal arch. *Not the foot muscles.* Children are being brought into our office by parents who expect that damage done may be corrected. Arch supports will not do it; and the last state may be worse than the first. Let the infant crawl too long rather than walk too soon; because it has the *will* to stand does not give it bones and ligaments fit for the ordeal. The child must not go barefooted or roller skate *until* it has learned foot control. Teach foot posture, walking, standing and sitting, and these in turn will exercise the leg muscles that will hold the foot up, and the foot, ankle and leg *will* be maintained straight. The play pen can be made perfect by using a very fine wire mesh on the inside to cover the upright sticks, thus removing anything the child can hold to pull itself up on its feet.

If when the child wears shoes it shows the slightest weakness, elevate the *inner breast of the heel* only sufficiently to straighten the foot with the leg; usually ⅛ inch is sufficient, but more if necessary. Sometimes it is necessary to add to the outer ball ⅛ inch to check the outswing of the foot—the abduction. The shoe correction is the same for the adult; if overweight, use the Thomas heel with sufficient elevation. Do not prescribe foot exercises. If instructions are given concerning correct walking, standing and sitting, the muscles that need exercising will be exercised. Feet must function parallel standing or walking. Sitting, cross both feet and let feet rest on their sides. When standing, to change position of the feet move laterally; thus the body weight is constantly equally distributed to both feet and legs. Correct walking can train muscles and ligaments to function normally if the patient wills it. A few months of effort will do it, with the young child and the mother or nurse must do the training.

In giving muscle exercise for the infant use the baby jumper and walker; adjust the seat of jumper and walker so that only the ball of foot touches the floor. This permits muscle exercise without body weight on the feet. For the child and adult use a bicycle. See that the seat is adjusted so that *only the ball of the foot* touches the pedal and is located *directly above it.* The feet must *always point straight to the front.*

A law little known, but not new, is the *Davis* law, which has aided me in the treatment of ankle weakness. It is as follows: "Ligaments or any soft tissue when put under even a moderate degree of tension, if that tension is unremitting, will elongate by the addition of new material; on the contrary, when ligaments, or soft tissue, remain uninterruptedly in a loose or lax state they will generally shorten, as effete material is removed until they can maintain the same relation to bony structures with which they are united. Nature never wastes her time and material in maintaining a muscle or ligament at its original length when the distance between their points of origin and insertion is for any considerable time, without interruption, shortened." Working with this law and training the patient to stand and walk correctly, muscles that are too long will shorten (such as the anterior and posterior tibial) and ankle ligaments and muscles that are too short (such as the peroneal group) will lengthen. To take *every step* as directed is the treatment needed to give permanent benefit *by exercising muscles that need it.* In examining the ankles, put *pressure on the outer border* of the heel; if weak, the feet evert; if but only one is weak, generally it will be the left foot.

Have the patient stand; see that the patient holds the foot, ankle and leg straight one with the other. You will find that the longitudinal arch is not involved. It is static. The soldier is trained to stand erect. If you can get the cooperation of your patient, *he can do the same for his feet* that the soldier does for his back.

If you think this ankle weakness is not common just observe the ankles of women walking in front of you and be convinced. "Flat feet" are a product of improper posture. When the body weight is placed on the foot, it rolls over on its inner border, because ankle ligaments have lengthened, and on the external side of the ankle they have shortened. The tibial muscles have lengthened, and the peroneal have shortened, permitting the foot to hinge at the ankle, and this, in turn, causes the anterior foot to abduct. There is no standard as to height of arch; it may be high or low. A foot with a very low arch generally makes an impression of a third degree flat foot. If the foot stands straight with ankle and leg and the achilles tendon is also straight (not curved inward), that foot is normal. When the foot rolls on its side it has the earmarks of a collapsed arch (flat foot.) Only rarely does the arch change its form. It is a common belief that the muscles of the foot support the bones of the foot; *only the ligaments of the foot sustain the arch.*

A foot with weak ankle may be benefited, and restored to function normally, if the patient wills it. In the army effort is made to correct poor posture. Soldiers with round shoulders are taught to keep the chin up which causes the shoulders to be kept back. Foot problems can be handled in exactly the same manner. People can be trained to hold the foot, ankle and leg, straight, one with the other. It is necessary to understand the Davis law in order to provide effective treatment. When the clavicle is fractured the arm is placed down at the side and the forearm extends up toward the opposite shoulder where it is kept for about six weeks. During that period the anterior muscles shorten and the posterior group lengthens. So it is with the lower extremity. The anterior and posterior tibial muscles can be trained to hold the foot erect until the ankle ligaments eventually take over. The treatment will readjust the tibial and peroneal muscles to function normally by shortening the former

and lengthening the latter. Foot posture must be corrected for standing, walking and sitting.

Shoes must fit correctly. If the ball of the foot is in the ball of the shoe and the shank is rigid, it supports the arch and there is less danger of fracturing metatarsals. If the shoe fits snugly from ball to heel, it is possible to control the foot within the shoe. In some cases, adjustment of the shoe may be necessary. This generally can be made at the heel. Supports are not provided within the shoe. The writer had considerable experience with shoe problems for naval personnel while serving as civilian consultant under Captain George Dowling of the Navy Medical Department.

903 Patton Drive.

STRUCTURAL CHANGES IN THE LEVY MOULD

BEN LEVY, Pod.D.
Schenectady, N. Y.

THIS PAPER should be considered as a supplement to the original article which was written in 1948, and which appeared in the June, 1950, issue of the JOURNAL OF THE N.A.C. Following introduction of the appliance in Buffalo (February, 1949) Richard Schuster started experiments with the appliance, and named it the "Ben Levy Mould."

Dr. Schuster should be credited with a number of important modifications, and particularly with his method of fabrication which I have adopted with some changes, discarding the time-consuming technic described in the original paper.

The original paper was written during the experimental stage with the introduction of several case histories. Since that time, several thousand pairs have been in use, and the attempt to reproduce a natural weight bearing environment has been more than justified in subsequent case histories, in addition to reports from those who have investigated the problem.

For the convenience of those who failed to read the original article, a brief summary follows:

The appliance was intended to induce *active* plantar flexion of the toes on weight bearing, and studies connected with its construction were predicated upon the assumption that nature provided man with a yielding weight bearing surface—and man covered much of the surface with concrete and other unyielding materials. This in turn has contributed to numerous foot disabilities of a mechanical nature, including disuse atrophy of some of the important foot muscles particularly the four layers comprising the plantar group, and those terminating in the great toe.

While evolution of the foot has produced fundamental changes in its structure, man has not entirely given up the grasping function as is evi-

dent by observing the feet of the infant, where the digits are voluntarily plantar flexed and the first toe abducted, with and without stimulation. To some extent, plantar flexion of the toes is also seen when adults walk in bare feet upon sand or turf.

Modalities used in the treatment of anterior foot disabilities in the past have not always proved successful regardless of whether they were appliances, pads, shoe alterations, or other types of therapy.

Voluntary exercises prescribed for patients have the disadvantage of a limited time, and soon become monotonous.

The appliance germinated from difficulties found in private practice where conventional therapy met with partial success, and the use of the "Murray" shoe made over a plaster of paris cast of the foot; which contains an elevation fitting under the toes, causing plantar flexion of the digits on weight bearing.

In going over old files, the writer finds that the use of latex liquid and a solid, mixed to spatulate appliances was used as far back as 1938, when the Orthotex Company, Milwaukee, Wis., issued folders describing that technic. Following appearance of the original paper, a booklet describing the "Thomas Foot Correction System" reached the writer. It is evident that Thomas has been using the crest under the toes, but it is not clear whether the appliance is part of the shoe.

Changes in Construction

Corrections in the negative and positive casts are made as described in the original paper, but the "platform" for the positive cast has been discarded. The mixture of liquid latex (GL 15) * and a solid allows the material to be spatulated on the positive cast. This is accomplished by holding the positive cast with the plantar aspect turned upward over the basin which contains the mixture of cork and liquid latex. Roughly, the amount of liquid is 10% less the bulk of the cork, but with a little experience the operator will soon be enabled to find a consistency which spreads easily without dripping.

As the material is spatulated, it is thinned at the first and fifth metatarsal heads, and at the heel seat. A cup of water in which the spatula may be dipped enables the operator to smooth the mixture if it is a trifle thick.

While the writer's choice is finely ground cork, Schuster prefers lignum (wood powder) and warns that woods which contain resins, such as pine, should be avoided, as the resins are incompatible with latex. Mahogany, oak and other nonresinous hard woods are satisfactory. The writer's choice of cork is based upon its lighter weight, resiliency and ease in grinding.

After the material is spatulated, it should be allowed to remain on the cast for 48 hours, or until it can be removed without damage. However, full shrinkage time requires from 6 to 8 days, and one must make certain that full shrinkage has taken place before the core is divided for lengthening purpose. Low oven heat (100 F.) will hasten shrinkage.

One method of insuring proper length is to grind down to a smooth surface at the heel, a half inch of the lateral aspect of the core after it

*General Latex & Chemical Corp., 666 Main St., Cambridge, Mass.

has cured for 36 hours. The core is trimmed of excess material, but the crest is not molested at this time, as it is used to "lock" itself on the cast, when with an indelible pencil, the smoothed half inch at the heel is marked, and a corresponding mark is placed upon the cast. This is repeated every day, and finally when the line no longer shows a "break" for 48 hours, it should be considered safe to divide the core, cutting it across at the mid-tarsal section and tying it securely to the cast. The space is then filled with some of the original mixture and allowed to overlap the cut edges of the core. When filling the open space, press the mixture thoroughly into it to insure good contact with the cast, and allow it to remain a trifle high to allow for shrinkage.

The newly applied mix will cure in 24 to 48 hours. It then may be removed and the core trimmed to the desired size; any small depressions on the surface to which the cover is to be applied may be filled with a thin mix, and the crest ground to remove excess material and rough spots.

The core is then ready to receive the top material. For some time the writer used a "Fiberglas" cloth, but it is now unavailable, and a good grade of vinyl treated fabric which was used previous to the advent of "Fiberglas," has proved satisfactory. It may be purchased in upholstery or department stores. The cover material is a matter of the operator's choice, but leather does absorb moisture, while the vinyl coated fabric does not.

Before placing the top cover, the plantar surface of the core is ground smooth. The rubber cement is placed on the cover and the core. When tacky, it is firmly adhered by using a small wood roller such as paperhangers use in fastening wall paper edges.

The bottom is finished after the patient has been notified to appear for a try on, and as pointed out in the original article, the footwear must allow full freedom of toe motion. Obviously, an appliance which induces activity of the toes becomes worthless if the shoes are tight enough to prevent motion.

All alterations should be made from the bottom; either by removing material at pressure points, or as is usually done after a few weeks' wear the crest is made higher by adding one-eighth inch of cork. When ground to a smooth edge, it becomes about 1/16" higher. Crests as high as ⅛" have proved perfectly comfortable. In any case the crests should be high enough to stimulate plantar flexion of the toes.

Extreme metatarsal elevations as a rule are not only unnecessary but uncomfortable. However, the majority of shoes, especially welts, are more or less concave across the metatarsal heads, and a slight (about ⅛") elevation is helpful as it neutralizes the concavity in the shoe.

The bottom finish is simple. A coat of rubber cement is applied, and when tacky, dropped into a shoe box containing wheel grindings, lignum, leather dust or any flocking material of choice. When excess material is rubbed off, the surface is then given a coat of liquid latex and under a hair dryer, is ready for use in five minutes.

Mould Modifications

As described by Schuster in his comment which followed the original paper, a number of prosthetics have been used with gratifying results. It has been used successfully in the Chopart amputation, and the patient

is enabled to walk and drive an automobile. It has also been used successfully in Lisfranc's amputation (all toes) and polio cases. Carleton[1] recently described a latex prosthetic used in a congenital deformity.

Construction Hints

At the time the original article was prepared, it was to some extent written during the experimental stage. Experience has proved that the following hints add to the efficiency of the operator.

Air holes in the positive cast may be filled in with an unsalted mix of plaster; large holes with a knife and smaller spots with the finger tip.

A brush or cotton tipped applicator may be used to apply single coats of liquid latex.

Before finishing the plantar surface of mould, check for high or thick spots at the first, fifth metatarsal heads and heel. Grind to desired thickness.

In cases where the foot is unusually wide, after the core of the mould has been divided as already described, the forepart may be divided longitudinally and filled at the time the appliance is lengthened.

If used in connection with treatment of a flaccid weakfoot, the measure stick should be used on weight bearing and at rest to determine the amount of elongation necessary in addition to overcoming the latex shrinkage.

(1) Carleton, F. J., J. N. A. C., Sept., 1950.

821½ State Street

BETTER USE OF MANPOWER

THE job of the hour, according to Oscar R. Ewing, Federal Security Administrator, is the conservation of the national resource in shortest supply—manpower.

We cannot hope to compete with our potential enemies in the size of our population, but we can, through health programs, assure maximum use of the manpower we do have.

Civil defense preparations are important, but we cannot afford to neglect other public health programs which are equally important to the successful survival of this Nation.

We need not wait, however, for additional resources; we can at once make better use of the not inconsiderable resources at hand. In any peacetime operation, whether Federal Government, State government, or private industry, there's a certain amount of slack. Let's do something about it. Ingenuity, imagination, brains, and hard work will go a long way toward overcoming deficits in funds and personnel.

The aged, the handicapped, the untrained, and the volunteers can do tasks that are now being done by professional persons and experts. But we need creative leadership, planning and organization to utilize them effectively.

THE

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Address all communications intended for publication, matter relating to advertising, business or subscriptions to the Editor.

CHIROPODISTS INCLUDED IN AMENDED SELF-EMPLOYMENT CONTRIBUTIONS ACT

Both the Commissioner of Internal Revenue and the Office of the Federal Security Administrator have officially indicated to the National Association of Chiropodists that members of the profession were included "through an oversight" in Section 208.5 (c) of Subchapter E which deals with self-employment income.

Information and instructions concerning the procedure to be followed by practitioners will be published in future issues of the *Journal*.

FOOT HEALTH WEEK SCHEDULED MAY 19-26, 1951

FOOT HEALTH WEEK sponsored by the National Association of Chiropodists is scheduled to be held May 19-26, 1951. Affiliated state societies are requested to appoint a chairman and committee to conduct this important public education program.

FREEDOM

YOU and I must be forever mindful that the heritage of America and the strength of America are expressed in three fundamental principles: first, that individual freedom is our most precious possession; second, that all of our freedoms are a single bundle, all must be secure if any is to be preserved; third, that freedom to compete and readiness to cooperate make our system the most productive on earth. Only within the framework of these principles can we hope to continue the growth that has marked our history.

DWIGHT D. EISENHOWER

SCIENTIFIC PROGRAMS FOR ASSISTANTS

PRACTITIONERS, very often, find themselves bogged down by a maze of minor details; details which can be easily taken care of by the office assistant. Too often, the doctor has neither the time nor the patience to instruct the assistant in the caring of these matters; consequently they are either neglected or they require the doctor to spend additional hours in the office.

As yet none of our chiropody schools have instituted a course for office assistants. Therefore, the only other alternative is "scientific programs" for them to be held in conjunction with Zone or State Conventions. Many subjects aside from the usual duties of an assistant can be presented and demonstrated by qualified individuals. Subjects such as shoe padding, the construction of latex, felt and moleskin pads, proper application of physical therapy modalities, practical psychology and a host of other topics of interest to the assistant and the practitioner can be offered for discussion.

Assistants will welcome the opportunity to participate in scientific programs, and the chiropodist will be rewarded for his cooperation in this matter by the elimination of the many small duties he is now required to perform.

I strongly urge all Zone and State convention chairmen to incorporate a program for assistants in future scientific programs.

MAX SPEIZMAN, D.S.C., Chairman
Chiropodical Assistants Committee

MEDICAL POLICY COUNCIL CREATED

SECRETARY of Defense Marshall has signed a directive abolishing the Office of Medical Services and the Armed Forces Medical Advisory Committee and establishing an "Armed Forces Medical Policy Council" composed of the three Surgeons General, three civilian members and a civilian chairman.

The Surgeons General had not been members of the old Armed Forces Medical Advisory Council since early in 1949.

Mr. Charles P. Cooper, who had been chairman of the Armed Forces Medical Advisory Committee for three years, was presented with the Certificate of Appreciation by Deputy Secretary Lovett.

Dr. Richard L. Meiling, former Director of the Office of Medical Services, has been retained as Chairman of the new Medical Policy Council. He will also be advisor and assistant to the Secretary of Defense on medical and health matters, but the Directive provides that he "will be guided in such advice by the views of the Council."

The Directive not only restores the Surgeons General to top level policy making but contains a specific provision that if any one of them dissents from the decisions of the Council he may appeal direct to the Secretary of Defense.

In addition to the Chairman, present members of the Council are Maj. Gen. Raymond W. Bliss, Surgeon General of the Army; Rear Adm. Clifford A. Swanson, Surgeon General of the Navy; Maj. Gen. Harry G. Armstrong, Surgeon General of the Air Force. They will serve with three

civilians to be selected by the Secretary of Defense from among national authorities in medical and health fields.

The Council will develop basic medical and health policies for the Department of Defense and review those of the three military departments. It will collaborate closely with other defense agencies, such as the Joint Chiefs of Staff and the Munitions Board, where medical considerations are involved.

COMPREHENSIVE HEALTH SURVEY

BROOKINGS INSTITUTION, which last year condemned national health insurance on the basis of a preliminary survey, has started a comprehensive study to determine the need for an availability of medical care.

Considerable attention will be devoted to the role of voluntary prepayment medical care plans, which have been widely proposed as an alternate to compulsory health insurance. The Institution will do some fact-finding on its own but will also make use of the reports of established professional and governmental organizations.

The Brookings report will contain economic information concerning chiropody. It is anticipated that the report will be published in the near future.

MULTIPLE SCLEROSIS

PERSONS suffering with multiple sclerosis should keep up their hopes, advises Dr. George G. Deaver, director of the Cerebral Palsy Pre-School Center, Lenox Hill Hospital, New York, in an article published in the current issue of The Crippled Child Magazine, official publication of the National Society for Crippled Children and Adults, the Easter Seal Agency.

"All cases cannot be considered hopeless, as the condition sometimes becomes static and improves," says Dr. Deaver. "Physical therapy and rehabilitation offer the best means of treating the symptoms, preventing deformities and maintaining the morale of the patient until the cause is known and a specific cure is found."

In the article entitled "Physical Therapy and Rehabilitation in Multiple Sclerosis," Dr. Deaver points out that multiple sclerosis is a chronic disease of the nervous system with its cause unknown. One theory advanced is that the disease may be caused by a spirochete, another is that a virus is the culprit, but the evidence in both theories is not conclusive. Other hypotheses are that multiple sclerosis is an allergy, a vascular disorder and a vitamin deficiency.

The disease seems to be most common in cold, damp climates. It occurs most frequently in the United States on the North Atlantic Coast; in the Great Lakes region, and is rare in the South. Reports indicate that multiple sclerosis is increasing in this country and in Europe. It usually occurs between the ages of 20 and 45 years.

"In treating the multiple sclerotic patient by physical therapy and rehabilitation, there are three important facts which must be considered," adds Dr. Deaver. "First, since the cause is unknown, we cannot treat the cause. It is only the symptoms and signs of the disease that are treatable.

Second, multiple sclerosis in the majority of cases is a progressive disease and degeneration may take place faster than rehabilitation, no matter what therapy is used. Third, there are periods of remission when the patient may be without any evidence of the disease. There are also periods of exacerbation when the patient will be severely disabled.

"The purpose of all therapy is to relieve the symptoms so that the patient can perform the functional activities of daily living such as ambulation and self-care. Movements of the joints are of little consequence to the patient unless they are functional in nature. The patient measures progress in the lower extremities in terms of walking and the arm movements in the ability to eat and drink and care for toilet activities."

CIVIL DEFENSE—THE NEW YORK PLAN

NEW YORK STATE is producing a sound civil defense plan, Dr. Herman E. Hilleboe, New York State Commissioner of Health, recently announced in reporting his observations of the English program as well as his experience in developing a program for New York.

Dr. Hilleboe went to England to study the defense measures there and to draw from English experience with aerial bombing the defense, medical, and rescue lessons needed to save effort and costly mistakes in planning for defense against atomic attack.

The New York State Health Department has the responsibility of State-wide planning for the medical and public health activities of the civil defense program. Additional duties are coordinating local resources, training teachers and key personnel, stockpiling State supplies and handling Federal supplies allocated to the State, and making special studies to improve medical procedures used in civil defense. The State's coordinating activities include Federal-State, interstate, and interdepartmental relations, and proper liaison between the department of health and the civil defense commission. In addition, a two-way channel must be kept open between the State and the county and city health departments.

Advisory System

Advisory committees must be kept few in number and as small as possible, otherwise too much time of operating personnel will be taken up going to meetings, making and listening to speeches, and important work will be delayed. The pattern used in New York State is a simple one. The two principal committees are (1) the health resources committee which includes representatives from the major health groups in the State—official and voluntary; (2) the medical advisory committee of the Medical Society of the State of New York which includes the president of the Society and the chairmen of the various special committees involved in civil defense. Specifically, these are the committees on health preparedness, public health and education, and blood banks. When special problems arise, one of the members of the medical advisory committee is appointed chairman of a small subcommittee which reports back to the medical advisory committee. In this way, one main committee keeps all advisory activities under control.

For example, the chairman of the health preparedness committee called a meeting of the clinical specialists from the nine medical schools in

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*Bowers, W. F., *Am. J. of Surg.*, LXXIII; 37 (1947)

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MEMBER A. C. E.

New York State to establish uniform procedures for emergency treatment of burns, shock, and fractures—a step extremely important in the interchange of personnel and in determining what supplies must be stockpiled. This chairman will report back to the medical advisory committee and the committee will report to the State commissioner of health, who serves as the medical member of the State civil defense commission and reports to its chairman.

Training Program

The health department has developed a State-wide plan which places the office of medical defense in the executive division of the commissioner until the permanent status and function of this office is determined. Key personnel throughout the department have been assigned special tasks on a part-time basis. Their activities in civil defense are coordinated by the health department's office of medical defense, with major policy decisions cleared through the commissioner of health. These public health experts call upon department advisors and consultants for advice.

The department has prepared a basic guide for emergency medical and public health services for cities and local communities; it reviews local plans to determine the best use of doctors and other professional personnel, and has established regional units which can be strategically utilized, singly or in multiples, in the event of attack. A public health physician is assigned full time to the civil defense commission to act as an alternate member of the central headquarters control staff. He also determines what resources and personnel will compose mobile columns that will be sent to areas of devastation.

Early in 1949 the New York State Department of Health sent a number of its physicians and engineers to Washington for civil defense training courses. These men served as instructors for other members of the State health department. In June, 1950, a training program was arranged for all practicing physicians.

Subjects taught include the role of the health officer in medical preparedness against atomic disaster, a discussion of the problems encountered at the time of explosion, a discussion of radiation syndrone in man, a presentation of elementary nuclear and radiation physics, the biologic and genetic effects of radiation, the pathology and treatment of victims of an atomic explosion, and a discussion of radiation detection and measurement instruments.

A 1-day teaching course in each area of the State proved sufficient for orientation of general practitioners. Ninety-six 1-day teaching courses have been arranged for nearly 10,000 physicians in upstate New York. Attendance so far has been well over 80 per cent of the registered physicians in the area. In addition, 60 sessions have been planned for physicians in New York City. Also to be trained will be 500 licensed osteopaths and about 50,000 registered professional nurses and licensed practical nurses. The training of lecturers and the preparation of detailed curricula require the highest degree of competence from the health department and the medical schools.

Principal target areas have been indicated and special attention has been given to the resources in the vicinity of the target areas. For example, plans for Suffolk, Nassau, and Westchester, which adjoin the metropolitan areas, are extremely important in the event that New York

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City is hit. Target areas must be concerned primarily with self help and secondarily as sources of help to other target areas.

In nontarget areas, the major emphasis of defense activities is on mutual assistance. The target areas would be helpless to take care of their injured without aid from supporting areas. Furthermore, emergency hospitals, supply depots, and evacuation centers will be located in the nontarget areas. Mobile primary-aid post teams will be mobilized from these areas. In the more distant areas from the targets, permanent hospitals will provide treatment that will avoid unnecessary disability and will put people back to work and normal activity as quickly as possible.

PARTICIPATE IN YOUR STATE AND LOCAL CIVIL DEFENSE PROGRAM

Local Planning

Local plans are being developed on the pattern of the State's basic guide for medical services in civil defense. Each local plan should contain a clear statement of needs, both immediate and long range. Objectives of the local plan must be clearly defined. Finally, the special activities of different types of medical personnel should be foreseen as realistically as possible and described in detail.

In the local area the public must be prepared to accept the risk of possible attack by atomic bombs and also to accept the responsibility of giving mutual aid to other parts of the State. The latter is the more difficult of the two. If people understand the purpose of civil defense and participate in it, they will be better able to meet their individual emotional crises. A sound plan helps to avoid group panic and fear and can reduce the damage that might be done to those who make a frenzied attempt to escape when the area is hit.

First, direction must be provided for the lost and the fearful so that they will not wander into dangerous areas. Boys between the ages of 12 and 15 will probably make effective messengers and guides for the hysterical. Second, casualty information must be collected centrally so that correct information may be promptly given to relieve the anxiety of relatives and friends.

One of the major tasks of the local community is to train and retain the thousands of volunteer workers of all types needed to participate in the local medical defense program. If attack does come, local groups should know that the State is prepared to extend the services of mobile columns to any part of the State. These, however, cannot be moved unless they have been properly trained and organized upon the same basic plan that is used in the area of attack.

The magnitude of civil defense against atomic attack baffles the imagination. The destructive power of the atomic bomb and the inadequacy of any military defense against it make complete security impos-

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sible. We are amateurs in chaos. Under the burden of known destruction that even one atomic bomb can cause, we must admit that we shall succeed in our humane intentions only if we can reduce the probable number of the dead, minister to the injured, and ease the anguish and suffering of the stricken.

The atomic bomb produces no new or mysterious illness. The medical profession has been familiar for many years with the effects of ionizing radiation on the body. The problem posed by such an attack is one of medical logistics—a race against time to get sufficient personnel and supplies to one or more cities in the State within hours.

1951 N.A.C. AWARDS FOR RESEARCH IN CHIROPODY

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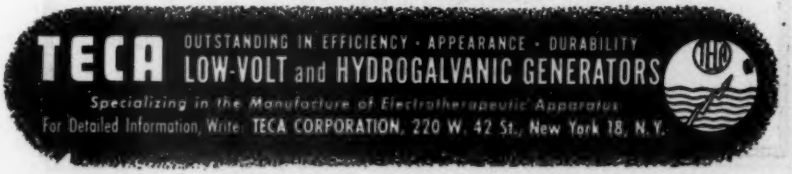
CASH AWARDS are offered for research papers on any subject in the field of chiropody. Final date on which papers will be accepted is April 15, 1951.

A special award is offered in 1951 for which only recent graduates are eligible. Those members of the N.A.C. who have been in practice two years or less will receive special consideration for this new award which will be in the amount of $150.00. In order to qualify recent graduates must, in addition to complying with the standard rules for papers submitted, present with the manuscript a letter certifying thedate of graduation, which should be obtained for an administrative officer of the college attended.

Members who desire to submit papers should make application on a form provided for that purpose which can be obtained from the executive secretary. The rules for the 1951 Awards were published in the July, 1950, issue of the Journal of the N.A.C.

URGE NON-MEMBERS TO JOIN THE N.A.C.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"Innovations in the Fabrication and Application of Orthopedic Foot-Molds"
R. O. Schuster, D.S.C.

"Kinesiology of the Foot"
Arthur Steindler, M.D.

"Medical-Chiropody Relations"
Charles W. Mayo, M.D.

"Industrial Chiropody"
L. A. Walsh, D.S.C.

"Symposium on Diagnosis"
F. H. Arst, D.S.C.
Ned Pickett, D.S.C.
A. Rubin, D.S.C.

ORGANIZATIONAL PROGRAM

"Growth of the Chiropody Profession"
L. A. Walsh, D.S.C
President,
National Association of Chiropodists

"Problems of the Profession and the N.A.C."
W. J. Stickel, D.S.C.
Executive Secretary,
National Association of Chiropodists

"A Report on Our Fight for Military Recognition"
W. C. Gigerich, D.S.C.
President,
Military Association of Chiropodists

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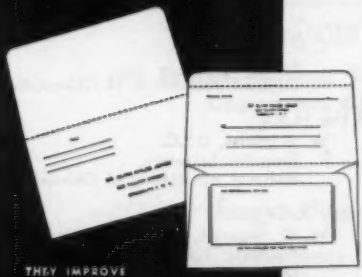

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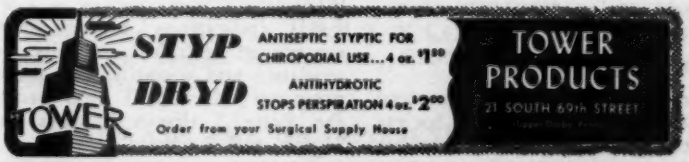
THAT TIRED FEELING

THE state of being tired is experienced by almost everyone at some time or other. It is a natural feeling at the end of a hard working day, but one that is supplanted with new energy after a refreshing sleep. The fatigue that is always present is the fatigue brought about by a long period of overwork, or late hours with little rest, or meals that do not provide the fuel necessary to maintain the machinery of the body. The maximum of production cannot be obtained from long hours of overwork. Efficiency is lessened to the degree that a worker comes to his job as tired as he left it the night before. The physical fatigue resulting from overwork, either mental or physical, is responsible for the saying "too tired to eat." The body needs fuel, it needs to replenish its stock of energy with energy-producing foods, and this can be done by means of a well-balanced diet. Sugar is needed to combat fatigue. When the blood sugar is depleted, many cases of fatigue and tiredness occur, even to the point of collapse. Numerous conditions stem from fatigue. Again fatigue may stem from various diseases, infection, improper hygiene, too much mental effort, inadequate nutrition. Many accidents can be charged to fatigue. For that tired feeling in the overworked person, a change of hours is recommended. There should be a shorter working day and a brief spell of relaxation, as recreation is important. For exhaustion in a nervous person, it has been found that complete rest in bed aggravates rather than relieves the condition, particularly for chronic nervous exhaustion. Such a person should be encouraged to carry on consistently from day to day, if only in a limited way. In general, however, rest is the best treatment for all types of fatigue. Physical activity should be decreased as much as possible, and such stimulants as coffee, tea and "cokes" should be abandoned or, at least, the use of them curtailed. Consult your doctor. He is the person to investigate the reasons for your fatigue. If a glandular disturbance is responsible, he will detect it. Self-medication won't help. Let your doctor lead you into a balanced social and business way of living. The fatigued person is one who, in his tired state, contributes little to his own enjoyment and nothing to that of any one else. Time passes too quickly to be too tired to enjoy its interest.

Illinois State Medical Society, Health Talk, Nov. 23, 1950.



ORGANIZATION NEWS

PENNSYLVANIA

North Philadelphia Division

A REGULAR meeting of the North Philadelphia Division of the Chiropody Society of Pennsylvania was held on December 12, 1950, at the Hotel Essex. Dr. William Ignatoff of Newark, N. J., delivered an illustrated lecture on "The Treatment of the Medical-Chiropodical Patient."

Berks County Chiropody Society

A REGULAR meeting of the Berks County Chiropody Society was held on January 2, 1951, at Medical Hall, Reading, Pa. The speaker of the evening was Dr. Harold I. Miller of Reading.

Dr. Joseph Horwitz will lecture on "Low Voltage Therapy" at the next meeting.

Western Division

THE Western Division of the Chiropody Society of Pennsylvania held a regular meeting December 14, 1950, at the Schenley Hotel in Pittsburgh.

Dr. Harold W. Orr, of Oil City, Pa., lectured on "The Establishment of Chiropodical Diagnosis." Standardization of diagnosis among practitioners was stressed and the use of various instruments was explained.

Dr. Robert Nicklas, retiring chairman, was awarded a distinguished service plaque.

Northwestern Division

A MEETING of the Northwestern Division of the Chiropody Society of Pennsylvania was held December 10, 1950, at the Arlington Hotel, Oil City, Pa.

The following officers were elected:

President—Dr. John Pankratz

Vice-President — Dr. Theodore Huels

Secretary-Treasurer — Dr. Joseph Fletcher

Dr. John Dover of Erie gave a demonstration of his "Cast Technique and Celastic Appliance."

NEW JERSEY

AT the regular meeting of the Board of Trustees of the New Jersey Chiropodists Society, Dr. Jonas C. Morris, General Chairman of the 1951 Region 3 Chiropody Science Conclave, reported that a meeting of his Committee was held on January 27 at the Ambassador Hotel in Atlantic City, N. J., where the Region 3 Convention is scheduled to be held May 11-13, 1951.

Reports showing progress and plans were discussed and outlined by the following committee members: Dr. V. Leonard Brown, Deleware representative; Dr. Jack Ostroff, Maryland representative; Dr. Joseph M. Funston, New Jersey representative; Dr. Arthur M. Schultz, Pennsylvania representative; Dr. Jack Horwitz, technical exhibits chairman; Dr. Joseph F. Brown, public relations and entertainment chairman; Dr. Charles E. Krausz, scientific program chairman; Dr. William Ignatoff and Dr. Lee Lindenberg, co-chairmen of the program book.

All indications presage new records in technical exhibits, attendance and scientific and social programs which will help justify the Zone 3 slogan "always the biggest and the best."

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The Scientific Program will be a post-graduate course for the general practitioner. It is an established fact that many successful chiropodists among those in general practice maintain proficiency in the most advanced methods and techniques by attending at least two post-graduate scientific conclaves every year.

With this fact in mind, the 1951 Zone 3, Scientific Program will be beamed to provide useful, comprehensive studies concerned, chiefly, with subjects that are of most interest and value to chiropodists engaged in general practice.

Chiropodists are invited to participate by exhibiting or demonstrating any of their own original or special methods, techniques or appliances that may supplement, facilitate or improve the established procedures in general practice.

Practitioners wishing to participate will, please, write to Dr. Charles E. Krausz, College of Chiropody, Temple University, 1810 Spring Garden Street, Philadelphia, Penna.

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N.A.C. EMERGENCY FUND

Dear Members:

Acting on the instructions of the 31st House of Delegates, a special fund-raising committee appointed by President Walsh has advanced the proposal set forth in this announcement.

The N.A.C. is now raising funds for various important purposes, chief among which is securing recognition in the armed forces. This fund is called "the N.A.C. Emergency Fund." We are requesting that each state society collect and forward $5.00 "as a voluntary contribution" from each member. State society treasuries are to be reimbursed as individual contributions are obtained.

Send your contribution to your state society secretary at once—the need is urgent—the responsibility is yours—the goal is recognition! The kind of cooperation given by our members will largely determine the degree of success we can achieve.

WILLIAM J. STICKEL
Executive Secretary

MICHIGAN

THE annual business meeting of the Southern Michigan Chiropody Society was held in Battle Creek, January 9, 1951.

The following officers were elected:

President—Dr. A. W. Bass

Vice-President—Dr. Bruce Wright

Secretary-Treasurer — Dr. F. E. Whitman

State Delegate—Dr. James Collicott

CONNECTICUT

ANNOUNCEMENT has been made that Governor Bowles appointed Dr. Irving Yale of Ansonia, Conn., to serve on the Chiropody Board of Examiners for a three-year term.

WISCONSIN

THE regular quarterly meeting of the Wisconsin Society of Chiropodists was held at the Schroeder Hotel in Milwaukee, January 13, 1951. Mr. Bloomquist, attorney for the Employers Mutual Insurance Co., addressed the members on the Workmen's Compensation Act relative to the chiropodist's legal right to receive compensation for treatment for a foot disability incurred by a worker while on the job. The Society voted to send the N.A.C. fund-raising committee a "voluntary contribution" of $5.00 per member.

PROGRAM FOR REGION SIX CONVENTION

REGION SIX of the National Association of Chiropodists will hold its annual convention March 30-April 1, 1951, at the Fort Des Moines Hotel, Des Moines, Iowa. An excellent program will be offered which will include the following lecturers: Drs. F. O. Gamble, G. E. Guenzler, L. A. Frost, R. O. Schuster, L. A. Walsh, W. C. Gigerich, F. H. Arst, A. Rubin, and N. J. Pickett. Among the special features included will be a lecture on "Medical Chiropody Relations" by Charles W. Mayo, M.D., of the Mayo Clinic, and a lecture by Arthur Steindler, M.D., of Iowa City, Iowa, on "Orthopedics."

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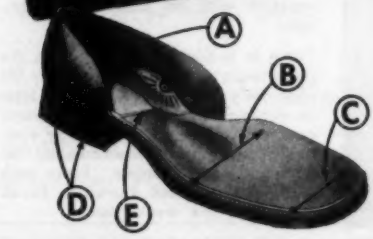

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Dr. Lester A. Walsh, President of the N.A.C., will also lecture and deliver several talks to various medical and civic groups in Des Moines. Many social activities which include luncheons, banquets and a dance are scheduled.

Dr. Stewart E. Reed, 425 Kresge Building, Des Moines, Iowa, is convention chairman. Attendance is limited to N.A.C. members. Reservations can be made through Dr. Reed.

MID-WEST CHIROPODY CONFERENCE MEETS APRIL 14-16, 1951

REGION FIVE of the N.A.C. has announced the scientific program for the Mid-West Chiropody Conference which is scheduled to be held at the Sherman Hotel in Chicago, April 14-16, 1951. Among the lecturers scheduled to appear are Dr. Arthur Steindler, prominent orthopedic surgeon of Iowa City, Iowa. He is well known to the profession through his many published articles and books. His subject will be "Mechanics of the Foot," following which an open forum will be held.

Dr. Carlo Scuderi, Professor of Orthopedics, Cook County Post Graduate School of Surgery, will lecture and demonstrate on the surgical treatment of the foot and ankle. Dr. George Shecter will demonstrate the use of various modalities in physical medicine. His lecture will emphasize the advantages of iontophoresis.

Dr. T. E. Ingersoll will present a demonstration of cryotherapy for the treatment of verrucae. Dr. Abe Rubin will lecture and conduct a discussion on children's foot problems. Dr. Philip Brachman will discuss the role of the chiropodist in the treatment of cerebral palsy with emphasis on this disorder as it affects children. Dr. Ralph Fowler will speak on various types of drug therapy including narcotics.

All N.A.C. members are invited to attend the Conference. Send your reservations for accommodations directly to the Sherman Hotel, Chicago, Illinois.

AMERICAN ASSOCIATION OF CHIROPODISTS TO MEET

THE Third Annual Seminar and Clinic of the American Association of Chiropodists will be held April 2-3, 1951. For information write: Dr. Mildred K. Dixon, Tuskegee Institute, Ala.

DR. POMERANTZ NAMED DEAN AT OHIO

DR. M. S. HARMOLIN, President of the Board of Trustees of the Ohio College of Chiropody, has announced the appointment of Dr. Max M. Pomerantz as Dean. This action was ratified by the trustees on December 20, 1950. Dr. Harmolin was appointed Honorary Dean and he was re-elected President.

ABSTRACTS

SKETCHES ADD DRAMA TO YOUR TALKS

WHEN you find it necessary to present a talk the impression you make depends on how lucidly and coherently you can transmit your ideas to others. It's easy to make your efforts successful by the proper use of visual aids—charts, slides, etc. However, there are two aids which are often overlooked. They require no cumbersome apparatus and are within the reach of the smallest budget. They are: 1. The Chalk Talk. 2. The Proper Use of Color.

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signs centering round the "myalgic spots," which can be located by objective criteria, are described. Injection of procaine is recommended for relieving this pain, restoring the function of the diseased muscles in a short time and leading to a rapid cure. It is suggested that the injection of procaine be used in all cases of painful feet, not accounted for by any organic disease, as a diagnostic test in order to prove conclusively whether or not a given pain is of muscular origin.

M. G. Food, Practitioner, Sept. 1949

HIGH HEELS AND LOW HEELS

THE consequences of wearing high heels is formidable enough and there can be little doubt that there is nothing to be said medically in favor of such a fashion. This article is not concerned with the treatment of the various resulting deformities, but it must be emphasized that when patients first present themselves for relief the conditions have usually been too long established to permit of radical replacement, nor can high heels be abandoned immediately, owing to the "set" of the foot. The most that can be done is to afford as much ease as possible by palliative measures.

It is only too clear that the correct way to deal with these conditions is prevention, but there is little hope of doing this unless fashion can be made subservient to anatomical and physiologic demands; this involves a difficult psychologic problem that so far has defied solution.

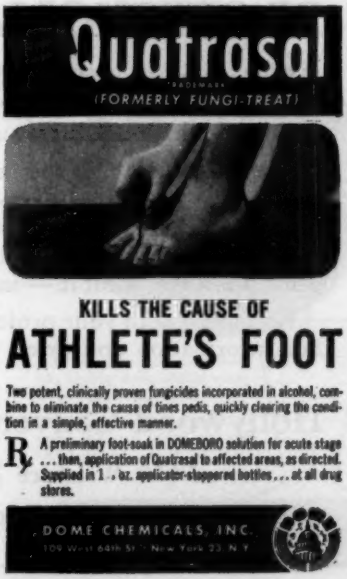
Norman C. Lake, Practitioner. Sept. 1949

MORE UNDER SOCIAL SECURITY

ALL who uphold social insurance as the most practical method of safeguarding individuals and families against the unpredictable hazards of an industrialized civilization will be encouraged by the substantial advances represented in the 1950 amendments to the Social Security Act.

These new amendments dramatize one essential attribute of all social legislation; the fact that it is dynamic, not static. Resources and needs change with the times. Laws designed to make human lives safer and happier must change, too, whatever the cost of legislative and administrative time and effort. In the last analysis, it is only through public understanding and support that the drafting and administration of any measure in the health or welfare field can eventually meet the need it is designed to serve.

Eveline M. Burns, Our New Social Security
The Survey, October, 1950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SUBUNGUAL ALLERGY

THE eczematous reactions of the nail bed subsequent to application of under coats to prevent chipping of nail lacquer are believed by Drs. Charles R. Rein of New York University, New York City, and James R. Rogin of Wayne University, Detroit, to be of an allergic nature. The under coats contain phenol-formaldehyde resins which appear to be the principal sensitizers. The resins may reach the nail bed by being forced under or around the nail and may even dialyze through the nail plate. Treatment is unnecessary as the nails return to normal when the use of the under coat is discontinued.

Arch. Dermat. & Syph., 61:971-983, 1950

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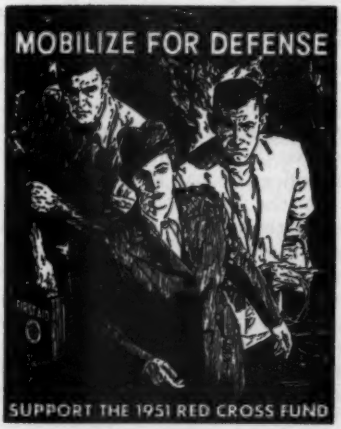

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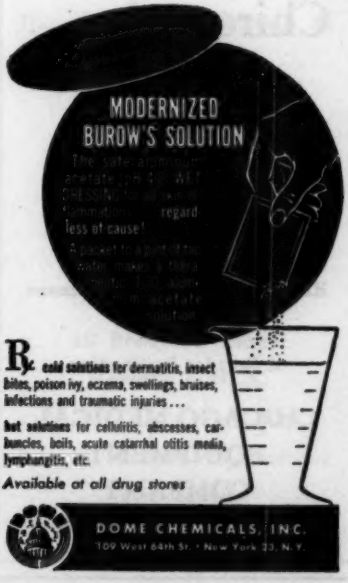
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MISCELLANEOUS

NO PENSIONS FOR DENTISTS

When the coal miners, steel and automobile workers struck for $100-a-month pensions to be paid at 65, the subject of old-age protection was highlighted for many self-employed persons. With the inclusion of more wage earners under the Social Security System further emphasis was placed on old-age security. Dentists still remain outside the circle. Any pensions that they receive must be provided by themselves, and so far there has been no inclination to include dentists under Social Security.

The pensions to be paid industrial workers come out of the corporate income as business expenses and are not subject to federal income tax. These funds do not become taxable until they are received by the pensioner when he has retired and is in a lower income tax bracket. For example, the General Motors Corporation sets aside funds under a government approved plan to pay the pensions of employees when they become eligible. No income tax is paid on these funds by either the corporation or the employee. Until he is separated from his regular employment, the employee does not become eligible for pension. When his pay ceases, he begins to receive the pension, and not until then does he pay any tax.

In the case of Social Security funds the employer's share is paid out of gross receipts as a business expense and is thus tax free. The employee's contributions are not tax free, but when the benefits are paid they are not subject to federal income tax. The industrial worker, therefore, who has a pension derived from both company and

Social Security sources, has the advantage that part of his pension is completely tax free when it is received.

Let's look at the dentist who wishes to provide for his old-age security. He must save money out of his net income; money upon which he paid full income tax. Unlike the corporation, he cannot deduct the cost of a pension plan from his gross receipts as a business expense. He invests this money in securities or property. The interest, dividends, or rents that he receives are all taxable as income when received. The tax on this income cannot be deferred to a time when his earnings are less. To be assured of an income of $100 a month as his own pension, he will be required to have a capital saving of at least $40,000. This $40,000 he must save after he has amortized the cost of his education, which is at least $30,000. This amount represents both the actual cash outlay for his education and lost income for a six-year period.

The earnings of professional people are "bunched" in a relatively short period of twenty-five to thirty-five years. That means that during those years they are thrown into the higher income tax brackets and pay a much higher lifetime tax than the earner who has the same lifetime income but spread over more years. The dentist whose major earnings are concentrated in the years from 25 to 60 pays a much higher total tax than the earner who receives the same total lifetime income spread over the years from 20 to 65.

Although the House of Delegates of the American Dental Association has not looked with favor upon the inclusion of dentists under the Social Security System, there are a good many dentists in practice who have not been heard and who look with interest at some

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form of old-age protection that would be assured and not too costly. It might be well if a plebiscite were conducted among all the members of the American Dental Association to learn their attitude toward Social Security coverage. Unless such a vote is taken no one will know the sentiments of the profession on the subject.

From Oral Hygiene—Editorial.

GETTING ALONG WITH PEOPLE

AT A SEMINAR session recently held at Northwestern University, Mr. Charles A Horrworth gave his formula for getting along with people.

"Man's happiness, his efficiency, and his success are all dependent upon his relations with other people and the basic law for this principle was laid down by the Apostle Matthew when he said: 'Therefore, all things whatsoever ye would that men should do to you, do ye even so to them.'" said Mr. Horrworth.

Pointing out that no two problems in human relations are exactly similar, Mr. Horrworth named the following as foremost tools in achieving good human relationships:

1. Be yourself;
2. Avoid the appearance of being superior;
3. Avoid defensive positions;
4. Be a good listener;
5. Stand for something;
6. Allow the other man to preserve his good opinion of himself;
7. Establish a basis of mutual interests;
8. Be self-sufficient and self-reliant;
9. Be frank, open and honest;
10. Have courage enough to face problems and people without lies and deceit.

"Individually, perfect though you may seem to be," Mr. Horrsworth said, "you are only a dependent single member of the human family. Unless your association with other members of the family is effective, you cannot succeed. To some degree it is necessary that you learn to manage other people, which is another way of saying you must adjust your actions in a way that will affect other people favorably.

"To enjoy the loyalty of other men, you must deserve it. It is not alone a matter of tactics, of strategy in handling them. To be courteous, to be sympathetic, to be friendly, to be helpful—all these things will help, but something more is needed. There must be a consciousness of strength within. To manage others you first must manage yourself."

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METATARSUS ADDUCTOVARUS—"SKEWFOOT"

METATARSUS ADDUCTOVARUS, or skewfoot, is a clinical entity which is now more prevalent in this country than clubfoot. Untreated skewfoot may persist as an annoying deformity with hallux valgus, bunion, flatfoot and chronic foot strain. Adequate early and persistent manipulative treatment with casts will completely correct the moderate deformity. Follow-up by clinical and roentgen examination is important. Severe or untreated skewfoot in the older child requires operative treatment for adequate correction.

Donald W. McCormick, J.A.M.A., October 15, 1949.

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BOOK NOTICE

NEW MEDICAL DICTIONARY

THE recently published *New Gould Medical Dictionary* is an excellent book for the chiropodist's reference library.* Despite the continuation of the name the book is not a revised edition but an entirely new work for which the Fifth Edition of *Gould's Medical Dictionary* was used merely as a framework. The definitions have been entirely rewritten by more than 100 authorities to conform to modern lexicographic standards of brevity, clarity, and accuracy. Thousands of new words have been added. New knowledge, procedures, and terminology are presented, not as hastily compiled addenda, but as integrated material. The book is well illustrated and the anatomic drawings comprise an atlas of the human body. Pronunciations are indicated by a combination of phonetic respelling and syllabification. Arrangement of contents and improved typography make the volume invaluable for ready reference.

*NEW GOULD MEDICAL DICTIONARY edited by Harold Wellington Jones, Normand L. Hoerr, and Arthur Osol. Ill. Blakiston Co., Philadelphia. $8.50

DEATHS REPORTED

MRS. FANNIE HARMOLIN

Mrs. Fannie Harmolin, wife of Dr. Max S. Harmolin, Dean of the Ohio College of Chiropody, passed away on November 6, 1950. Mrs. Harmolin was well known throughout the profession and her loss will be mourned by her many friends.

Dr. Leon C. Palmer, Appleton, Wis.

Dr. John H. Schroeder, Chicago, Ill.

Dr. Laurence P. Diffay, Champaign, Ill.

Dr. Minnie N. Bellwood, Fairfield, Conn.

Dr. John A. Woolridge, Pittsburgh, Pa.

Dr. Clive Henninger, Philadelphia Pa.

Dr. Arthur F. Krausz, Boston, Mass.

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Mar. 18, 1951

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Fort Des Moines Hotel (CE)

REGION FIVE CONVENTION
Indiana, Illinois, Michigan, Chicago, Ill., Apr. 14-16, 1951
Sherman Hotel (CE)

REGION THREE CONCLAVE
Delaware, Pennsylvania, New Jersey, Maryland, Atlantic City, N. J., May 11-13, 1951
Ambassador Hotel (CE)

OHIO CHIROPODISTS ASSOCIATION
Toledo, Ohio, May 25-27, 1951
Commodore Perry Hotel (CE)

FLORIDA CHIROPODY SOCIETY
Daytona Beach, Fla., June 1-3, 1951
Princess Issena Hotel (CE)

WISCONSIN ASSOCIATION OF CHIROPODISTS
Milwaukee, Wis., Sept. 29-30, 1951
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